

WUNSCH, J.

WUMSCH, J.

WUMSCH, J. New equipment for measuring steam purity in high-pressure boilers. p. 315.

Vol. 6, no. 7, July 1956

ENERGETIKA

TECHNOLOGY

Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

WUNSCH, J.

The use of ferrous concrete widges in construction. p. 239. Vol. 19
No. 1/3, 1956. KOZLEMENI. Budapest, Hungary.

SOURCE: East European List, (EEAL) Library of Congress Vol. 6, No. 1
January 1956.

WUNSCH, J.

Treatment of feed water for highpressure boilers in the second Five-Year Plan.

P. 234, (Strojoelektrotechnicky Casopis) Vol. 8, no. 5, 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

WUNSCH, J., inz.; KADLEC, V., inz.; BRODSKY, A., inz.

New method of removing oxygen from demineralized feed water and condensates in high-pressure electric power plants and heating plants. Energetika Cz 12 no.10:515-520 0 '62.

1. Ceskomoravska-Kolben-Danek Dukla, Praha.

MUNSCH, K.

Seismographic measurement of the effects of vibrations caused by the blasting of mud on the construction site of a dam across Templin Lake near Berlin.

P. 331. (ZELEZNICNI TECHNIKA.) (Praha, Czechoslovakia) Vol. 5, No. 12, Dec. 1957

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, 1958

~~Wunsch~~ L,
WUNSCH, L.

1315. Complexometric titrations (chelometry).
XIII. The determination of scandium. L. Wunsch.
(Coll. Czech. Chem. Commun., 1955, 20, 13, 1107-1111).
Conditions for the direct and indirect
compleximetric determination of Sc with EDTA
(disodium salt), with Eriochrome black T as indi-
cator, have been studied, and satisfactory results
have been obtained. By masking with KCN and
dimercaptopropanol, Sc can be determined in the
presence of Zn, Cd, Ni, Co, Hg or Cu, or of small
amounts of Pb, Bi or Fe. [This is a translation into
German of a paper originally published in *Chem.*
Listy, 1955, 49, 813.] N. E.

Wunsch, L.

CZECHOSLOVAKIA/ Analytical Chemistry. General Problems. G-1

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27108.

Author : L. Wunsch.

Title : Complexometric Titration in Industrial Practice.

Orig Pub: Chem. prumysl, 1956, 6, No. 11, 456 - 459.

Abstract: Review. Bibliography with 31 titles.

Card 1/1

WUNSCH, L.

Application of ion exchangers in analytic inorganic chemistry.

P. 24 (Chemie, Vol. 9, no. 1, Apr. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

Wunsch, Ludek

E-1

CZECHOSLOVAKIA/Analytic Chemistry - General Topics.

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32143

Author : Ludek Wunsch

Inst :

Title : Combined Application of Complexometry (Chelatometry) and Ion Exchange Resins.

Orig Pub : Chem. listy, 1957, 51, No 2, 376-378; Sb. chekhosl. khim. rabot, 1957, 22, No 4, 1339-1341

Abstract : The selective separation of cations by their elution from a chromatographic column with complex producing reagents is very effective, but an analytic treatment of very dilute eluates is difficult. The new method consists in a selective elution of cations with titrated solutions of ethylene-diaminetetracetic acid or Hunt's reagent sometimes combined with other complex forming reagents and in a reversed titration of the eluate by ordinary complexometric methods. A high selectivity in

Card 1/2

CZECHOSLOVAKIA/Analytic Chemistry - General Topics.

E-1

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32143

respect of a determined cations or a cation group can be attained by using a corresponding eluent. The separation of Ca from Mg is presented as an example. At the separation of more complicated cation mixtures, the selective elution with complexones of different pH, or the cation elution with selective complex forming reagents is applied. The complex forming reagents are for example: triethanolamine (separation of Sc and Al), malic acid (separation of Sc from Ca, Mg, Ba, Sr and other cations), tiron (separation of Fe, Ti and Al from Ca and Mg) and cyanide.

Card 2/2

20

WUNBCH, I.

Potentiometric determination of alkali reserves and carbonates
in the fluids of the body. Coll. Ca Chem 29 no.9:2252-2259 S '64.

1. Bezirksanstalt für Volksgesundheit, Bezirkskrankenhaus, Ustl.
nad Lebam.

WUNSCH, Ludek

Contribution to colorimetric micro-determination of iron in
the blood plasma with the aid of α, α' - bipyridine. Cas.lek.
cesk. 99 no.45:1416-1419 4 N '60.

1. Ustredni laborator KUNZ, Usti nad Labem, prednosta MUDr.
Z. Kulenda.

(PYRIDINES pharmacol)
(IRON blood)

KORANYI, Gyorgy, dr.; WUNSCH, Walter, Dr. ing.; OECHELHAUSER, Kurt;
PUTNOKY, Janos; SOMHEGYI, Lajos; SZUMAN, Witold; VALY, Ferenc, dr.;
DOBO, Laszlo; NAGY BIRO, Sandor; VIDA, Miklos; TOBAK, Lajos;
MAKOLDI, Mihaly; NASZALYI, Laszlo; HUNEK, Emil

Technical and economic questions relating to gas utilization.
Ipari energia 3 no.1/239-14 Ja-F '62.

1. Fovarosi Gazmuvek muszaki igazgatoja (for Valy).

CZECHOSLOVAKIA

Z. WUNSCH, Psychiatry Clinic of Faculty of General Medicine of Charles University (Psychiatricka klinika fakulty vseobecneho lekarstvi Karlovy university) Prague.

"Some Models in Psychiatry."

Prague, Ceskoslovenska Psychiatrie, Vol 53, No 6, 1962; pp 371-375.

Abstract: Experimental models already implicitly contain built-in hypotheses, and can thus never be entirely objective. Their suitability depends on the closeness of the correspondence between the real situation and the hypothetical base of the model. Cybernetics and their applications are discussed in some detail from an abstract point of view. One Soviet and 1 German reference.

#UNSCH, Zdenek

Cybernetics & its importance in psychiatry. Cesk. psychiat. 53 no.4:
262-272 Sept 72

1. Psychiatricka klinika KU v praze.

(CYBERNETICS,

significance in psychiatry (Cs))

(PSYCHIATRY,

significance of cybernetics (Cs))

WUNSCH, Zdenek

Construction of a miniature electroshock apparatus. Cesk. psychiat. 54 no.3:
192-195 June 58.

1. Psychiatricka klinika MU v Praze.
(SHOCK THERAPY, ELECTRIC, apparatus & instruments
miniature appar., construction (Cs))

L11172-56 SCFB DD

SOURCE CODE: CZ/0088/65/000/005/0461/0470

ACC NR: AP6030189

AUTHOR: Wunsch, Zdenek (Doctor)

ORG: Psychiatric Research Laboratory, FVL, UK, Prague (Vyzkumna laborator psychiatricka FVL UK)

TITLE: Remarks on the conception of biological autoorganization

SOURCE: Kybernetika, no. 5, 1965, 461-470

TOPIC TAGS: cybernetics, central nervous system, neuron

ABSTRACT: The method of the natural origin of complex cybernetical systems may be denoted as biological autoorganization (AO). From the present knowledge of biology it is possible to derive certain general characteristics of biological AO, which may be conceived as the autoregulation of structures formed by elements having some changing properties. It is therefore expedient to realize biological AO as processes of reproductive transformations of elements, eventually of different levels of complexity. The information necessary for the selection and autoregulation of structures (i.e., necessary to realize the resulting organization from elements having some fundamental properties in a given environment) may be substantially smaller than the information necessary to represent the resulting organization. Therefore, an important problem is the significance of the properties of the system's elements.

Card 1/2

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ACC NR: AP6030189

ments and of their relation to the possible orderliness and autoregulation of the resulting structure. The conception of biological AO can be applied to some processes of the origin of the higher abilities of the central nervous system, because certain distinguishable states of this system -- generally of a more complex form than the states of a single neuron -- can be conceived as elements of the process of AO. Some interesting problems may be derived from the given conception (e.g., problems concerning the selection of relevant information by the central nervous system) and they can be studied on experimental models. [Based on author's Eng. abst.] [JPRS: 34,162]

SUB CODE: 06 / SUBM DATE: 14Apr65 / ORIG REF: 003 / OTH REF: 014

Card 2/2 hs

WUNSCH, E.

Power factor compensation in electric arc furnaces. Elektrotechnik
39 no. 6:163-164 Ja '64.

1. Ceskomoravska-Kolben-Danek Praha National Enterprise, Prague.

REZKOVA-MOURALOVA, H., MUDr.; WUNESCHOVA, B., MUDr.

Improvement in medical care for mentally ill. Cesk. zdravot. 6 no.2:
81-84 Mar 58.

1. Ministerstvo zdravotnictvi - odbor lecebne preventivni prace.
(MENTAL DISORDERS, prev. & control
in Czech., improvement (Cz))

HAAS, L.; WUNSCHOVA, B.; CHODUROVA, A.

Psychosocial concept of suicide and delinquency. Cesk. psych.
60 no.6:375-382 N '64.

1. Psychiatrické oddelení Ústav národního zdraví ONV v Praze
5 a 6.

WORDS I.

HUNG

Synthesis of Isopropyl benzene — G. Zillner, I. Wipfler, J. Maron, (Atagur Kimikurak Laya — Vol. 7, pp. 199-201, 1 fig., 1 tab.)

A continuous Friedel-Crafts synthesis of isopropyl benzene has been investigated and compared with a conventional technology for the preparation of ethyl benzene as well as with other syntheses of isopropyl benzene. It can be ascertained that (1) the composition of the final product of the Friedel-Crafts propylation of benzene is determined by the redistribution of the di-alkyl benzene formed by direct alkylation, similarly to the synthesis of ethyl benzene. Temperature has only a slight influence on this redistribution and, consequently, upon the composition of the final product whereas the propylene-benzene mole ratio bears a considerable influence. (2) Isopropyl benzene can be synthesized from propylene and benzene, and ethyl benzene from ethylene and benzene in the presence of $AlCl_3$ with the same technology and in an identical apparatus. (3) The most favourable conditions for the continuous process of synthesis of isopropyl benzene are the following: composition of the feed, 86% benzene and 20% di-isopropyl benzene, propylene-benzene mole ratio 0.47, temperature 100-102°C, the yield referred to both benzene and propylene is 95%. With the best sulphuric acid method a similar yield can only be achieved with a propylene-benzene mole ratio of 0.32. With the described Friedel-Crafts technology the regeneration and recirculation of benzene can be carried out more economically.

WURDITS, Imre

Industrial use of ketene. Kem tud kozl MTA 14 no.3:327-329 '60.
(EEAI 10:9)

1. Szerves Vegyipari es Muanyagipari Kutato Intezet, Budapest.

(Ketene) (Acetic acid) (Anhydrides)
(Pyrolysis)

WURFEL, J.

Heptogram in various stages of fetal life. Pat. polska 4 no.1:61-75
Jan-Mar 1953. (CML 24:5)

1. Of the Third Internal Clinic (Head--Prof. J. Aleksandrowicz, M. D.)
of Krakow Medical Academy.

GACS, Janos, dr.; KEREKES, Erno, dr.; WURFER, Bela, dr.

On Wilson's disease (Hepatolenticular degeneration). Orv. hetil.
106 no.20:935-938 16 My'65.

1. Budapesti Orvostudományi Egyetem, III. Belklinika (igazgató:
Gero, Sándor, dr.) és Országos Traumatológiai Intézet (igazgató:
Szanto, György, dr.).

WURM, Boleslav; CERNY, Zdenek, inz.; NOSEK, Bohuslav; FOLDINA, Josef;
STURMA, Jan; ELIASEK, Jaroslav

Socialist pledge of organizers. Podnik organizace 17 no.2:54-56 F '63.

1. Ministerstvo vseobecneho strojirenstvi, organizacni stredisko 02 (for Wurm, Cerny and Nosek).
2. Tatra, n.p., Koprivnice (for Foldina).
3. Metalis, n.p., Nejdek (for Sturma).
4. Ceske zavody motocyklove, Strakonice (for Eliasek).

BRZOSKO, W.; NIZNIKOWSKA-MARKS, M. J.; WURM, Ch.

Endocardial fibroelastosis. Pediat. polska 31 no.4:373-388
Apr 56.

1. Z Kliniki Diagnostyki Chorob Dzieciacych w Warszawie
Kierownik: prof. dr. med. Z. Lejmbach i z Zakladu Anatomii
Patologicznej w Warszawie. Kierownik: prof. dr. med. L. Paszkiewicz
Warszawa, Dzialdowska 1/3.

(CARDIAC ENLARGMENT in infant and child,
endocardial fibroelastosis (Pol))

WURM, J.
C/A

The prospecting of molding material deposits in Slovakia. Jaroslav Wurm, *Hutnické Listy*, Suppl. No. 2, 5-7 (1950).—Slovakian quartz sand deposits are mostly found in younger Tertiary formations. These sands contain high percentages of impurities, particularly clay admixts. and their utilization is adversely affected by the presence of gravel beds. Thick cover and irregular location of the sand deposits make the mining of these sands difficult. Geol. information on the sand mined in 15 of the most important locations is given. An interesting bentonite type was found; it is unlike the usual bentonite materials in its chem. compn., but its exptl. use in several foundries proved successful and its utilization on a larger scale is under consideration. Eugene Gros

W.M. 13

The prospecting of molding material deposits in Slovakia. Jaroslav Wurm, *Hutnické Listy*, Suppl. No. 2, 6-7 (1960). Slovakian quartz sand deposits are mostly found in younger Tertiary formations. These sands contain high percentages of impurities, particularly clay admixtures and their utilization is adversely affected by the presence of gravel beds. Thick cover and irregular location of the sand deposits make the mining of these sands difficult. Geol. information on the sand mined in 15 of the most important locations is given. An interesting bentonite type was found; it is unlike the usual bentonite materials in its chem. compn., but its expl. use in several foundries proved successful and its utilization on a larger scale is under consideration.

Bugene Gros

WURM, JAROSLAV

Card 1/1

ASSOCIATION: CKD Praha, zavod Sokolovo (CKD Works Prague, Sokolovo
Subsidiary)

TEXT: This popular science article briefly lists an expert-
mental helical-lobe air compressor, developed by the CKD Works Prague,
Sokolovo Subsidiary. The compressor is based on the Lysolm rotary com-
pressor, employs two counterrotating helical-lobes, and is suitable for
compression of air and chemically similar gases. This compressor type
has properties superior to those of reciprocating compressors, and has
a great variety of applications. [Abstractor's note: No performance
ratings of the compressor are given]. There are 7 figures.

PERIODICAL: Veda a technika mladezi, no. 6, 1962, 202

TITLE: A modern compressor type

AUTHOR: Wurm, Jaroslav, Engineer

Z/048/62/000/006/002/002
D291/D304

WURM, Pavel
Branch of the Czechoslovak Scientific Technical Society in
the Water Resources Research Institute. Vodni hosp. 13
no. 3:119-120. 63.

no academic degree indicated

Second stomatological clinic of the faculty for general medicine, Charles
University (II. stomatologická klinika fakulty všeobecného lékařství Karlovy
University), Prague; director: Prof. Dr. F. URBAN, CSc

Prague, Československá Stomatologie, No 6, 1962, pp 449-452

"Plasmal Cysts"

WURKOVA, I.

CSSR

ВУРМОВА, Л. МУДР, асистент
Тreatment of oro-anthral communications. Сепк.стомат. no.4-5:
176-179 JL '55.
1. 2 II. стоматол. клиника, предноста Др. Невулит.
(МАХИЛИАХТ СИМУС, diseases,
ther., management of oro-anthral passages)

SOURCE: East European Accessions List, (EEAL), Library of Congress,
Vol. 4, No. 12, December 1956

Economic results of the use of the assembly-line method of construction in
Dukla. p. 279 POZEMNI STAVBY. (Ministerstvo stavebnictví) Praha.
Vol. 3, no. 7, July 1955.

WURST, J.

WURST, M.

Distr: 4E2c(j)

Electromigration methods. I. Relation between the structure of aromatic compounds and their mobility in paper electrophoresis. 7. Jaroslav Franc and Milan Wurst (Výzkumný ústav org. syntet. Pardubice-Rybitví, Czech.). Chem. listy 52, 1474-8 (1958).—The influence was investigated of the steric arrangement of org. compds. on the magnitude and direction of their mobility in the app. of Wieland and Fischer (C.A. 44, 2590e). The values obtained show that the position of the functional groups on the aromatic nucleus does not influence the final mobility of the compd., with the exception of the *o*-substituted derivs. which form intramol. H-bonds. Contributions of the individual function groups to the total mobility ($\mu \times 10^4$ sq. cm. v.⁻¹ sec.⁻¹) are given in 3*N* NH₄OH and *N* AcOH, resp.: OH, 11.3, 0.0; 2-OH, 20.4, 0.0; 3-OH, 28.1, —; CO₂H, 11.3, 1.8; 2-CO₂H, 20.4, 3.2; SO₃H, 10.0, 7.1; 2-SO₃H, 21.1, 13.0; 3-SO₃H, 27.3, 17.2; NH₂, -0.7, -7.1; 2-NH₂, -1.4, -13.4; NO₂, 0.0, 0.0; Me, 0.0, 0.0; OMe, 0.0, 0.0; CHO, 0.0, 1.2; Cl, 0.0, 0.0. Special correction terms had to be introduced for intramol. H-bonding: O—H—O, -5.9, 3.1; NO₂—H—O (also contg. a *p*-NO₂ group), -1.6, 0.0; NO₂—H—O, 1.2, 0.0; NO₂—H—N (also contg. a *p*-NO₂ group), -0.8, 3.2; O—H—N, 1.7, 3.2. An unknown acid arising as by-product in the Kolbe synthesis of *p*-aminosalicylic acid from *m*-aminophenol was identified as 2-hydroxy-4-aminoisophthalic acid (μ = 20.3). L. J. Urbánek.

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JJ

COUNTRY : CZECHOSLOVAKIA B
CATEGORY : Physical Chemistry. Surface Phenomena. Adsorp-
tion. Chromatography. Ion Exchange
ABS. JOUR. : RZhKhim., No. 1 1960, No. 635
AUTHOR : Franc, J.; Wurst, M.
INST. : -
TITLE : Methods of Electromigration. I. Interrelation
Between the Structure of Aromatic Substances
and Their Mobility in Paper Electrophoresis
ORIG. PUB. : Collect. Czechosl. Chem. Commun., 1959, 24, No
3, 857-861
ABSTRACT : No abstract.
See RZhKhim., No 18, 1959, No 63879.

CARD:

1/1

FRANC, J.; WURST, M.

Electromigration methods. II. Relationship between the structure of anthraquinone derivatives and their mobility in paper electrophoresis. III. Mobility of some azodyes of I- and Y-acids. (EEAI 9:12)
Coll Cz chem 25 no.3:657-667 Mr '60.

1. Forschungsinstitut fur organische Synthesen, Pardubice Rybitvi.
 - (Electrophoresis)
 - (Anthroquinone)
 - (Azo dyes)
 - (Sulfonic acids)

FRANC, J.; WURST, M.

Chromatography of organic compounds. V. Determination of phenylchloro-
silane by means of gas chromatography. Coll Cz chem 25 no.3:701-705
Mr '60. (EEAI 9:12)

1. Forschungsinstitut für organische Synthesen, Pardubice-Rybitvi.
 (Chromatography)
 (Organic compounds)
 (Chlorophenylsilane)

FRANC, J.; WURST, M.

Chromatography of organic compounds. VII. Determination of aliphatic amines through gas chromatography. Coll Cz Chem 25 no.9:2290-2295 (EEAI 10:9) S '60.

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.

(Chromatography) (Organic compounds) (Amines)
(Aliphatic compounds)

S/081/62/000/006/039/117
B101/B110

AUTHORS: Wurst, M., Dušek, R.

TITLE: Analysis of organosilicon compounds. I. Gas-chromatographic determination of methyl phenyl ethoxy silanes

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 151 - 152, abstract 6D215 (Collect. Czechosl. Chem. Commun., v. 26, no. 8, 1961, 2022 - 2027)

TEXT: To separate and to determine quantitatively the components of the mixture arising in the synthesis of methyl phenyl diethoxy silane by a method described earlier (Capucio, V., et al., Chimie et industrie (Paris), 1951, 32, 282) gas liquid chromatography was applied at 175 - 180°C (or at 240°C for higher boiling substances) in columns (145·0,5 cm) containing siliconeelastomer on "Chromosorb" or kieselguhr (20:100) with a particle size of 0.02 - 0.04 cm, at a development rate of N₂ gas of 25 - 33 ml/min. Methyl triethoxy silane and C₆H₅Cl which cannot be separated on silicone are separated on 2,4,7-trinitrofluorenone under the Card 1/2

Analysis of organosilicon ...

S/081/62/000/006/039/117
B101/B110

same conditions. The chromatograph and the working method have been described earlier (RZhKhim, 1961, 6D229, 21D141). The gases leaving the chromatograph are burnt, the arising H_2O is reduced to H_2 which is detected on the basis of its thermal conductivity. The relative retention volumes of 14 organic and organosilicon substances in the mentioned sorbents are given. [Abstracter's note: Complete translation.]

Card 2/2

WURST, M.

CZECHOSLOVAKIA

no academic degree indicated

Research Institute for Organic Syntheses (Forschungsinstitut für organische Synthesen), Pardubice-Rybitví. (Present address: Eastern Bohemian Chemical Works Synthesis (Vychodoceske chemicke zavody Synthesia), Lucebni Kolin works)

Prague, Collection of Czechoslovak Chemical Communications, vol 27, No 10, Oct 62, pp 2391-2397.

"Analysis of Organo-Silicon Compounds II. Separation and Definition of Vinyl-Ethoxysilane Using Gaschromatography"

Co-author:

DUSEK, R. Research Institute for Organic Syntheses (Forschungsinstitut für organische Synthesen), Pardubice-Rybitví. (Present address: Eastern Bohemian Chemical Works Synthesis (Vychodoceske chemicke zavody Synthesia), Lucebni Kolin works)

WURST, Milan

Gas chromatography. Pt.1: Method of quantitative analysis. Chem listy
57 no.2:113-129 F '63.

1. Vychodoceske chemicke zavody Synthesia n.p., zavod Lucebni, Kolin.

WURST, Milan

~~Gas chromatography~~. Pt. 2. Chem listy 57 no.6:615-628 Je 163.

1. Vychodoceske chemicke zavody Synthesia, zavod Lucebni, Kolin.

WJRST, M.

Analysis of organosilicon compounds. Pt.3. Coll Cz Chem 29
no. 6:1458-1465 Je '64.

1. Vychodoceske chemicke zavody Synthosia, Kolin Plant.

KELEN, Anna; PAPP, Zoltan, dr.; WURSTER, Istvan

Certain questions of capacity measurement in cotton mills. *Magy textil*
17 no.4:182-185 Ap '65.

WURTERLE, Anton, dr.; SAS, Mihaly, dr., (Szeged Noi Klinika)

Causes, diagnosis, and therapeutic possibilities of virilism of women. Orv. hetil. 98 no.27:728-733 7 July 57.

1. A Liposai Tudományegyetem Szülészeti és Nőgyógyászati Klinikájának (igazgató: Robert Schroder dr.) közleménye.
(ADRENOGENITAL SYNDROME

etiol., differ. diag. & ther. (Hun))

WURTH, M.

WURTH, M. A scientific excursion of Swiss foresters in Croatia. p.325

Vol. 80, no. 9/10, Sept./Oct. 1956
BILTEN DOKUMENTACJE ZA POLJOPRIVEDU, SUMARSTVO, DRVNU I DUVANSKU INDUSTRIJU.
AGRICULTURE
Beograd

So: East European/Accession, Vol.6, no.3, March, 1957

DOČNÍČ, B.; VUŽEK, R.

Our experiences with investigation of the excretion of 17-keto-steroids and 17-ketogenic steroids in children with infectious hepatitis. Czech. pediat. 19 no.11:927-99) II '64

1. 1 interní oddělení (vedoucí MUDr. J. Černý) a 1. infekční oddělení (vedoucí MUDr. M. Hensiková) Krajské nemocnice a poliklinikou v Olavě.

1ST AND 2ND GROUPS		3RD AND 4TH GROUPS					
WUSATOWSKI, A.		PROCESSES AND PROPERTIES INDEX					
3		12					
<p>DRAUGHT, SPREAD AND ELONGATION IN THE HOT ROLLING PROCESS. A. Wus- atowski. (Prace Badawcze Głównego Instytutu Metalurgii i Odlewnictwa, 1949, No. 1, pp. 27-58). (in Polish). The author develops formulae for the coefficients of elongation and spread in hot rolling and pre- sents series of curves which enables them to be applied for the rapid solution of rolling problems.—R.A.R.</p>							
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION							
<table border="1"> <tr> <td>1ST AND 2ND GROUPS</td> <td>3RD AND 4TH GROUPS</td> </tr> <tr> <td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</td> <td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</td> </tr> </table>				1ST AND 2ND GROUPS	3RD AND 4TH GROUPS	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
1ST AND 2ND GROUPS	3RD AND 4TH GROUPS						
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WUSATOWSKI, A.

Chemical Abstracts
May 25, 1954
Metallurgy and Metallography

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①
Influence of changes in intercrystalline substances on the
properties of low-carbon steels. Z. Wusatowski. *Prace
Inst. Mech.* 3, No. 8, 11-64 (1953). A review with 187 ref-
erences. M. O. Halowaty.

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
WUSATOWSKI, L.																													
12																													
<p>No. 362 (Polish). L. WUSATOWSKI: "Graphical Methods for Calibrating Mill Rolls." (<u>Hutnik</u>, 1947, vol. 14, Apr., pp. 206-219.)</p>																													
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<p>ASIA-ILA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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WUSATOWSKI, R. 12

Empirical Graphical Method for the Determination of Drawing Force. M. Schneider and R. Wusatowski. (Prace Badawcze Głównego Instytutu Metalurgii, 1957, No. 1, pp. 11-16). [In Polish]. Using Lueg and Pomp's results the authors constructed diagrams of field of scatter for the following relations: $P = f(\sigma_s, r, p)$; $\eta = f(\sigma_s, r, p)$; $\sigma_s = f(\sigma_s, r, p)$ and $\sigma_s/H_B = f(\sigma_s, r, p)$, where: P = drawing force, η = coefficient of deformation efficiency, H_B = Brinell hardness, σ_s = yield strength, and r, p = area reduction. For calculation of drawing force the relation $\sigma_s/H_B = f(\sigma_s, r, p)$ is the most satisfactory as the scatter is the smallest compared with the others. The results of the authors' measurements of drawing force and hardness for low carbon steel rods calculated in terms of σ_s/H_B are within values given by Lueg and Pomp. The authors plotted a mean curve for the relation $\sigma_s/H_B = f(\sigma_s, r, p)$ from which they obtained a general empirical formula for calculating the drawing force for various kinds of steel rods and wires. With this a nomogram was constructed which permits rapid calculation of the drawing force. - V. O.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM SYNDICATE

FROM BOWEN

WUSATOWSKI,

669.3 : 669.14.001.8(018)-419.4-426

2577

Misiotek Z. Wusłowski R. The Method of Producing Bimetallic Copper-Steel Composite Wires

"Metoda produkcji bimetalowych drutów przewodowych miedzi-stal"
Prace Inst. Metalurgii No. 1, Katowice, 1952, PWT. 155 pp., 15 figs., 13 tabs.

Of the two principal methods of producing bimetallic wires, that which involves pouring molten copper over suitably prepared steel billets is, through the works published by M. Glinzberg, M. Maritz, and F. Pattison, well known; on the other hand, there is a shortage of exact information as to the method of pressing steel cores into rolled copper tubes. The difficulties involved in the first method lead the authors to the conclusion that the method of pressing steel cores into copper tubes will be the most economical in current conditions. Lacking precise data concerning this method, the authors conducted trials on a semi-industrial scale, basing their determination of the dimensions of the copper tubes and the steel core on the conditions given in the GOST 3822-47 standard, and, on account of a higher flow velocity of copper than of steel core during rolling, adopting a higher ratio (42:58) of section surface. Electrolytic copper 99.8% Cu, deoxidized with brass, was used for the tubes which were rolled on the Birmingham tube mill. Before having the core pressed into them the tubes were bored to an appropriate diameter, and etched. The bimetallic billets were, after being degreased, etched and coppered. The bimetallic billets were heat-pressed and in order to obtain better adhesion of the two metals heat-pressed in a temperature of 900°C for 3 1/2 hours; then, before rolling, the billets were water cooled and rolled from the diameter 89.0 mm to 9.0 mm. The conditions of rolling were established experimentally, the sequence of passes was ascertained by rolling soft steel billets, and the

(over)

WUSATOWSKI, R.

mean elongation coefficient was calculated according to the Winogradow formula. The flow of the metal was calculated by means of Z. Wusatowski's formula with the help of A. Wojtylak's special gliding rule. It was established that the flow of the bi-metal in grooves depends on a) the temperature difference between steel and copper, b) the rate at which the copper flows over the core, c) the parameters determining the flow conditions of the metal in the process of hot-rolling. The rolled rods, were, after checking, drawn to the diameter of 3.0 mm. For tests on production scale, DSA grade steel in rods rolled according to PN/H-93216 and tubes rolled in exact dimensions according to PN/B-1002 were used instead of the armco grade steel. Tests were made for two grades of wire with the section ratios, copper to steel 30/70 and 40/60. The procedure given in the initial tests was followed for rolling and drawing. On examining the properties of the wire obtained, the necessity of inter-operation annealing was established and its conditions determined. It was concluded, however, that that necessity would make the use of DSA grade steel uneconomical.

WUSATOWSKI, R.

③ 1954

2568

621944/2713

Wusatowski Z., Wusatowski R. Possibilities of Mathematical Determination of Metal Flow in Regular Sections.

„Możliwości matematycznego określenia płynięcia metalu w profilach regularnych“ (Prace Inst. Metalurgii No. 4) Katowice, 1952, 18.5 pp., 23 figs., 6 tabs.

Polish Technical Abst.
No. 1 1954
Metallurgy

Commonly used methods of calculating the mean draft in the rolling process and the authors' own method of calculating the mean height and draft, together with the adaptation of Z. Wusatowski's formula for calculating spread and elongation; it was found possible to determine mathematically the metal flow in regular sections. Checking the conclusions in practice.

V Method of production of bimetallic copper-iron wires. Z. Mielicki
and R. Niesztowski. *Prace Inst. Metal.* 1952 4 48. AN
Mosc., 1952.

✓ Mathematical determination of metal flow in regular sections.
Z. Wasatowski and R. Wasatowski (*Prace Inst. Metal.* 1952, 4,
273—291). — On the basis of theoretical considerations, a new
time-saving method of mathematical determination of metal flow
in regular sections is proposed.

eff

WUSATOWSKI, R.
British Abst.

B I

Aug. 1953

Ferrous
Metallurgy

Cladding of mild low-carbon steel sheets with stainless steel. C. Mirski, R. Wusatowski, and Z. Mislalek (Prace Inst. Metal., 1952, 4, 345-355).--A method of cladding of mild steel sheets with stainless 18/8 steel is developed. Main stages of manufacture are described. The prepared materials are heated to 1150-1200°, hot-rolled and heat-treated at 1050°. The results of the technological, mechanical, and metallographical examination of the product are given. The problem of mutual diffusion at the interface receives special attention.
S. K. Lachowicz.

WUSATOWSKI, R.

3
6
5
2

17891* (Possibilities in the Mathematical Determination of the Flow Process in Standard Rolled Shapes.) Möglichkeiten der mathematischen Bestimmung des Fließvorganges in regulären Walzprofilen. Z. Wysocki and R. Wusiatowski. *Metallurgie und Gießereitechnik*, v. 4, no. 7, July 1954, p. 295-307.


Simplified method computes applied pressure and flow of steel in lateral and longitudinal directions; also designs new rolls. Diagrams, nemograms, tables. 10 ref.

5/11/57

POLAND

WUSATOWSKI, R.

"Compound Clad Metals," by R. WUSATOWSKI; Prace Instytutu Ministerstwa Hutnictwa,
Gliwice, Nos. 2-4, 1955.



✓ Compound metals. R. Wusatowski (Prace Inst. Minist. Hutm.,
... of the manufacturing methods of ...

WUSATOWSKI, Roman

P O L .

12075* Modern Methods of Rolling Rods Into Rivets and Bolts, Nowoczesne metody walcowania prętów na nitki i trąby. (Polish.) Roman Wusatowski. Wiedomości Hutnicze, v. 11, no. 1, Jan. 1955, p. 1-14.
Now and older rolling machines and techniques compared; machine designs, roll types, and groove designing; roller pressures; heating methods; thread rolling. Photographs, diagrams. 11 ref.

WUSATOWSKI, R.

POLAND

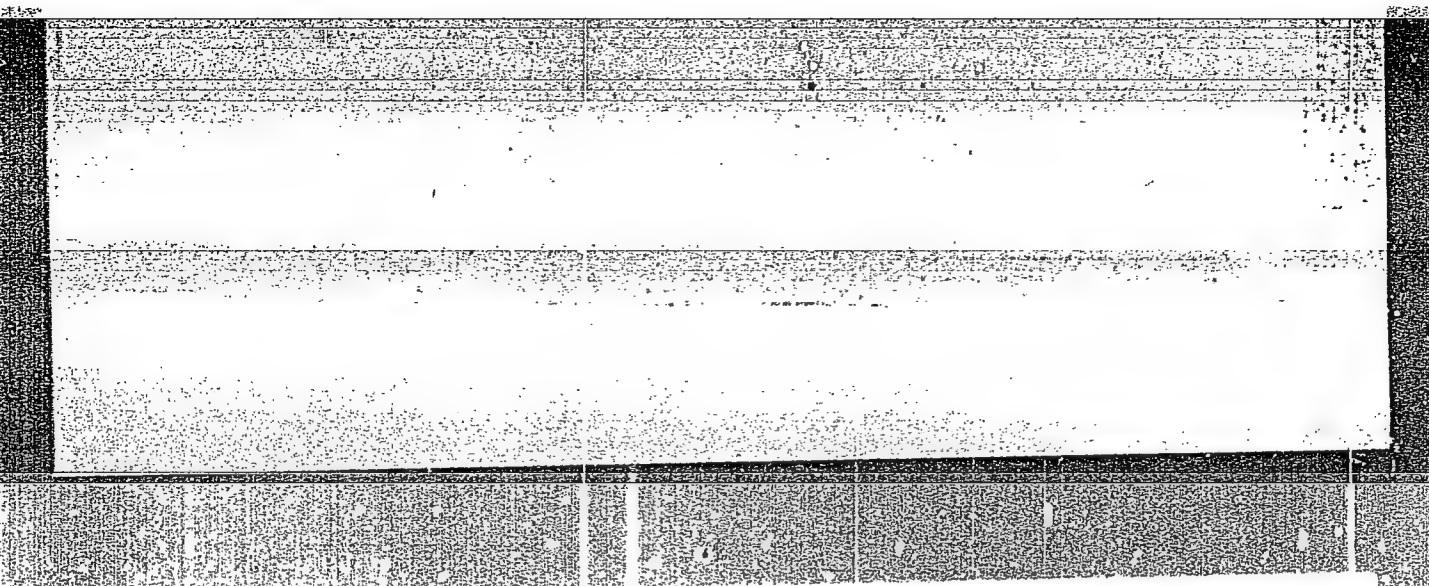
"Experiments for Adapting Metal Flow Formulae to Roll Pass Design," by Z. WUSATOWSKI and R. WUSATOWSKI, Prace Instytutow Ministerstwa Hutnictwa, Gliwice, Nos. 2-4, 1955.

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P/039/61/000/003/002/002
A221/A126

AUTHORS: Kieszniowski, Jan, Master, Kuś, Lesław, Siewierski, Jerzy, and Wusa-
towski, Roman, Masters of Engineering

TITLE: Radio-isotopic investigation of drawing die attrition, depending on
lubrication and drawing rate

PERIODICAL: Hutnik, no. 3, 1961, 91 - 106

TEXT: In this report the authors describe their investigations, made to establish optimum conditions at which the attrition of drawing dies can be reduced and also to establish the best combination of base coating material and lubricants applied at wire drawing. To measure the attrition of drawing dies, they used irradiated holes through which the wire was drawn. Samples of drawn wire were subsequently examined for their radioactivity, caused by a number of radioactive particles torn off the die hole and adhering to the wire. Test drawing was carried out at 1.5, 2.0 and 2.5 m/sec rate, using 5.5 mm thick wire rods in 5 mm drawing die, 4.1 mm wire rod in 3.5 mm drawing die and 2.3 mm wire rod in 2 mm drawing die. Chemical composition of wire rods used for these experiments was the

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Radio-isotopic investigation of drawing die attrition... P/039/61/000/003/002/002
A221/A126

following:

Type of steel	Alloying constituents %					
	C	Mn	Si	P	S	Ni
Low carbon steel	0.08	0.27	0.06	0.021	0.031	0.02
D45A	0.46	0.52	0.17	0.035	0.023	0.02
D85A	0.86	0.55	0.18	0.022	0.021	0.12

For each variant of experiments, 3 coils of about 600 m of wire each were used. For establishing the degree of radioactivity of the drawn wire, 1.3 m long sample pieces were cut out from it, at the beginning at every 4.5 m, then at every 20 m and finally at every 30 m. From these 1.3 m long samples, shorter pieces were cut out and placed in 43 x 45 mm aluminum frames to be examined for radioactivity by 2 Geiger-Müller counters simultaneously, from the top and from the bottom. The attrition of the drawhole equals about 0.08 g/ton of the drawn wire and, therefore, for a 5 mm wire it will be 1.2×10^{-5} g/m; assuming that the shortest piece of a sample is 0.2 m, the attrition of the drawhole along this piece will be 2.4×10^{-6} g. Therefore the maximum specific radioactivity of drawhole would be

$$s = \frac{3 \times 10^{-4}}{2.2 \times 10^{-6} \text{ g}} \approx 120 \mu\text{C/g}; \text{ similarly, the radioactivity of the largest draw-}$$

Card 2/3

Radio-isotopic investigation of drawing die attrition... P/039/61/000/003/002/002
A221/A126

hole weighing 196 g, would be $S = 120 \mu\text{C/g} \times 196 \text{ g} = 23,000 \mu\text{C} = 23.5 \text{ mC}$. Apart from measuring the attrition of drawholes, samples of wire were examined for their mechanical and plastic properties before and after drawing; about 650 tests were carried out. During the series of investigations, about 2,000 measurements of radioactivity on 38,000 wire samples were made; the total length of all samples was 900 m. The majority of collected information confirmed, in general, the conclusions drawn by some foreign investigators, that the right combination of lubricants and increased rate of drawing, improves the quality of the products. The authors arrived at the following conclusions: a) Increased drawing rate of up to 2.5 m/sec for production of wire from carbon steel is appropriate and from the economical and technological point of view justified, because at these speeds there is no appreciable increase of die attrition. b) When drawing wires from low-carbon steel, lime coating and soap powder can be used as lubricant. c) For drawing wires from higher carbon steels phosphatic coating is advisable, because it reduces considerably the friction wear of draw dies, as compared with lime coating. d) For drawing wires of larger diameters and lime coating, FDG lubricant should be used. There are 11 tables, 11 figures, 3 photos and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc.

Card 3/3

P/043/63/000/002/001/001
D403/D307

AUTHOR: Wusatowski, Roman, Master of Engineering
TITLE: High alloy steels for the production of tubes
PERIODICAL: Wiadomości Hutnicze, no. 2, 1963, 41-47

TEXT: A popular review article giving a general account of: 1) chrome steels, 2) chrome-nickel steels, and 3) high alloy steels. The chemical compositions of steels 2H13, H17, H17N2, H26N4, H23N18, H18N9S, H25N20S2, H18N10MT and H18N12M2T are tabulated, and diagrams are given showing the effects of alloying elements on the steel properties. General properties are summarized concluding that a) 2H13, H17 and H17N2 cannot be water-cooled as they suffer from surface cracking owing to the martensitic transformation in a thin layer (with associated volume change) owing to low thermal conductivity which increases with temperature; b) steels with low thermal conductance and large expansion should be heated slowly to avoid cracking; c) if steels as under b) also have a tendency towards trans-crystallization, they should be deformed together with

Card 1/2

P/043/63/000/002/001/001
D403/D307

High alloy steels ...

a layer of crystals frozen after prolonged heating. A brief description is also given of plastic strength and resistance to deformation, quoting typical values in tabular form. Plasticity is defined, discussed, and methods of increasing it are mentioned. There are 5 figures and 3 tables.

Card 2/2

P/043/63/000/003/001/002
D001/D101

AUTHOR: Wusatowski, Roman, Master of Engineering

TITLE: Production of tubes from high alloy steels

PERIODICAL: Wiadomości hutnicze, ⁹no. 3, 1963, 70-72

TEXT: This is the continuation of an article printed in the no. 2, 1963 issue of same periodical and constitutes a brief outline of methods applicable in tube production from high alloy steels. Individual chapters touch on preliminary treatment of blanks, heating, rolling, cooling, inter-operational thermal treatment, scale removal, lubrication and cold working, finishing, and final tests. The blanks for such tubes must be either worked or centrifugally cast; the latter require preliminary solutioning from 1,050-1,100°C if made from austenitic steel, machining, and rolling on an elongator, piercing mill or pilger mill. In the pilger process, the mandrels must be carefully prepared and coated with MoS₂ or graphite. Steels of the 2H13, H17N2 and H17N4 types require slow cooling upon rolling, in order to prevent martensitic transition and cracking. The tubes have

Card 1/2

P/043/63/000/003/001/002
D001/D101

Production of tubes from . . .

to be quickly cooled to 680-450°C, placed for 1-1½ hours in a furnace at 680-700°C, and further cooled at ambient temperature. Tubes thus treated have the optimum structure for further cold working. Tubes from H17 and H25N20S2 steels must be rapidly cooled to about 600°C, the further cooling progress being optional. Among usable methods of scale removal are electrolytic pickling in an HNO₃ + HF bath, pickling in molten NaOH under the addition of an oxidizer and NaCl, and pickling in sodium hydride. It is pointed out that quality control of finished tubes as practiced in Poland is far from perfect.

Card 2/2

The Mechanical Characteristics of Spring Steels as a Function of their Thermal Treatment. I. Fezycznko-Czopiwski and Z. Wusa-
towaki.. (Prace Badawczo Huty Baildon, 1936, Sept., pp. 51-70).

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<p>Defects and Imperfections in metal sheets. Z. Winiarski. (Hutnik, 1946, vol. 13, Dec., pp. 620-630). (In Polish). Different kinds of defects occurring in the manufacture of thin and thick sheets and means of preventing them, are discussed. Many photographs of commonly occurring defects are shown.---W. J. W.</p> <p style="text-align: center;">W-9</p>																																																			
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<p>PLOTTING A SMOOTH CURVE THROUGH SCATTERED POINTS. Z. Wasatowski. (Hutnik, 1947, vol. 14, June, pp. 287-292). (In Polish). By mathematical analysis, the author indicates how linear, logarithmic, and other equations may be derived for the development of smooth curves in a field of scattered values. --W.J.W.</p>																																																																																																																																	
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THE ROLE OF FORWARD SLIP AND LAG DURING ROLLING. A. Groza and Z. Wnasowski. (Hutnik, 1947, vol. 14, Nov., pp. 512-518). (in Polish). This article discusses the plastic deformation of metal during rolling, and explains methods of calculating the angles of contact of the bar with the rolls and the position of the neutral axis. The increased plasticity at high temperatures and the lowered friction cause forward slip at the surface, leading to splitting and lamination in the interior.

H. J. W.

G-27, W-9

ASIM-314 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>5</p> <p>HARD AND SEMI-HARD ROLLING, S. Maj. and Z. Wasatowski. (Nutnik, 1947, vol. 14, Nov, pp. 519-533). (In Polish). This discusses the types of cast iron suitable for chilled and semi-chilled rolls with details of the appropriate chemical composition and casting techniques. The existing literature on the hardness of rolls is fully considered. -W.J.W.</p> <p>M-3 , W-9</p>																			
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Br. Abs.

BI-5 Ferrous Metallurgy.

Hard and semi-hard cast-iron rolls. S.-aj. and Z. Wusatowski. (Hutnik, 1947, 11, 519, 533; J. Iron and Steel Inst., 1948, 160, 105).--Types of cast Fe suitable for chilled and semi-chilled rolls are discussed with details of appropriate composition and casting technique. The literature on the hardness of rolls is reviewed.

R.B. Clarke.

1ST AND 2ND ORDERS																										1ST AND 4TH ORDERS																									
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<p>Draft, Spread, and Elongation in the Hot Rolling Process. (In Polish.) Z. Wusatowski. Prace Badawcze Głównego Instytutu Metalurgii i Odlewnictwa (Reports of the Metallurgical and Foundry Research Institute), no. 1, 1949, p. 27-58.</p> <p>Develops improved formulas for the above as applied to steel, based on literature data and the author's experimental results. 37 ref.</p>																																																			
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WUSATOWSKI, Z.

Wusatowski Z., Dr.

Wusatowski Z., Dr. Eng. "The Care of Rolls in Rolling-Mills." (Sposob racjonalnego obchodzenia sie z walcami na walcowniach). Hutnik, No. 1-2, 1949, pp. 30-34, 6 figs.

The author considers the preventive and precautionary measures to be adopted during the operation, interruption, replacement and storage of rolls in rolling-mills. Particular attention is devoted to the cooling, or alternatively to the heating, as the case may be, of the rolls, and to temperature control, in order to avoid minor cracks. Emphasis is laid on the advantages of induction heaters and on the design of the Lukov and the Kharkov Elektroprom heater. Instances are quoted of damage to rolls from various causes.

SO: Polish Technical Abstracts - No. 2, 1951

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PROCESSING AND PROPERTIES INDEX																			
<p>B</p> <p>4</p> <p>Calculation of Rolling-Mill Roll Pressure. (In Polish.) Z. Wyszynski. Prace Badawcze Głównego Instytutu Metallurgii i Odlewnictwa, v. 1, no. 3, 1949, p. 233-290. A comprehensive treatise in four parts: basic principles of plastic deformation, theoretical calculation of roll pressure; empirical calculation of roll pressure; and calculation of roll pressure from roll flattening and tension. The various methods are critically analyzed and typical results compared. 176 ref.</p>																			
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<p>Pressure, Elongation and Speed of Steel during Hot Rolling. Z. Wozniakowski. (Hutnické Listy, 1949, vol. 4, Dec., pp. 406-412). (In Czech). The influence of roll pressure, initial shape of the material, diameter of the rolls, composition of the rolled steel, rolling temperature and speed, and the friction between the rolls on the rolled material were investigated for mild carbon steels rolled at ordinary temperatures. The author uses his own and other authors' data as a basis for a mathematical analysis of the influence of the above factors on the deformation of steel during hot rolling. n. n.</p>																																																			
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<div style="position: relative; height: 100%;"> B 4 <div style="position: absolute; top: 30%; left: 30%; width: 60%; text-align: center;"> <p>Effect of Speed, Temperature, and Kind of Rolls on Spread and Elongation in the Hot-Rolling Process. (In Polish.) Z. Wusatowski and R. Wusatowski. <i>Prace Instytutu Głównego Instytutu Metalurgii i Odlewnictwa</i>, v. 2, no. 2, 1930, p. 111-122.</p> <p>Improved calculation procedure is explained at length. Includes extensive tables and graphs. Average error was reduced 43.6% in comparison with a previous formula described by Siebel and Osenberg (Germany, 1934). 12 ref.</p> </div> </div>																			
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<p>Work and Power in the Rolling Process. (In Polish.) Z. Wasatowski. Praca Badawcza Głównego Instytutu Metallurgii i Odkuwnictwa, v. 2, no. 3, 1950, p. 213-267. Presents extensive theoretical and mathematical analysis of the above. Various methods of calculation are discussed. Practical ways of calculation of work and power in hot- and cold-rolling process are discussed. Effect of tension of metal by rollers was also analyzed. Many diagrams published in foreign literature are collected and numerous examples of practical application and calculation are given. 51 ref.</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
COMMON ELEMENTS																										COMMON VARIABLES INDEX																									

P.T.A.

503 649-122
Wusatowski Z. The Possibility of Avoiding Waste when Using Rolled Shapes.

„Możliwość oszczędniejszego wykorzystania wyrobów walcowanych”.
Hutnik. No 9-10, 1950, pp. 310-320, 11 figs., 1 tab.

The proper way of applying tolerances in dimensions and in weights. Limiting and normalizing the number and dimensions of rolled shapes, and the problem of their rational forms. Goods with increased resistance produced through proper choice of chemical composition of steel, or through work-hardening. Light cold-rolled shapes.

P.T.A.

Metallurgy

504 069-122
Wusiatowski Z. Factors Influencing the Differences in Thickness of
Rolled Sheets and Strips.

„Czynniki wpływające na odchyłki grubości przy walcowaniu
blach i taśm”. Hutnik. No. 11-12, 1950, pp. 415-423, 9 figs.

Sections of rolled sheets and strips. Forces acting in a section
during the process of rolling sheets and strips. Reaction of rolled
metal on the rolls when rolling. Action of heat on the rolls, and the
methods of cooling the rolls. Factors influencing the differences of
the thickness of rolled sheets and strips.

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What Problems Can Be Solved by an Experimental Rolling Mill? Z. Winiotowski. (Biuletyn Informacyjny Glownego Instytutu Metalurgii, 1951, No. 3-4, pp. 9-18; Hutnik, 1951, vol. 18, Apr.). [In Polish]. Various theoretical and practical problems which can be solved with an experimental rolling mill with adequate instrumentation are discussed. V, 0.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

Met. Abstracts

19

*Metal Flow, Elongation, and Spread During Rolling of Regular Sections. Z. Winiotowski and A. Wojtylak (*Prace Górniczo Inst. Met.*, 1951, 2, (1), 23-46).—[In Polish]. Equations for the detn. of metal flow during rolling of regular sections, derived by various investigators, are critically examined. Metal flow during rolling of regular sections, such as equal angles, tees, channels, and double-tees, was calculated with the use of Winiotowski's formula for the coeff. of elongation and spread and Landl's formula for the coeff. of mean elongation of the total cross-section, these formulae having been found to be in closest agreement with the experimental data presented. By redesigning rolls and grooves to give area reduction approaching the theoretical value for a single rolling pass, roll wear is reduced, rolling mill output is raised, and less power is consumed. Calculations are facilitated by a nomogram and a specially devised slide-rule. 19 ref.—A. G.

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19

†Critical Review of Recent Theories of Rolling. Z. W. Nisizawa (Prace Glównego Inst. Met., 1961, 2, (5), 389-416).— [In Polish]. Recent theories of rolling are discussed in detail, with particular ref. to the work of Nadai, Telikov, and Orowan. Nadai's and Orowan's theories allow for the variation in friction along the arc of contact of metal with the rolls, but only accurate measurements of roll pressure along the arc of contact will make the correct evaluation of these theories possible. Factors not taken into account by any of the theories include the spread of metal, the large elastic stresses occurring particularly in cold rolling under high pressure, the local effect of roll pressure on the metal, the effect of the rate of plastic deformation on the resistance to deformation, anisotropy of the rolled metal, flattening of the rolls due to compression, &c. Theoretical curves and experimental data are plotted and compared. 27 ref.

—A. G.

WUSATOWSKI, Z.

Polish Technical Abst.
No. 1 1954
Metallurgy

2869

631.944.14

Wusatowski Z. The Calculation of Speed in the Rolling Process.

„Obliczanie szybkości w procesie walcowania”. Prace Inst. Metalurgii No. 1), Katowice, 1952, PWT, 44.5 pp., 21 figs., 7 tabs.

Determination of formulae and methods of calculating speed of rolling in working conditions. Existing theoretical assumptions of speed calculation, and the part played by forward- and back-slips in the rolling process, together with approximate formulae for determining the angle of the neutral plane, with particular reference to the formulae of Pavloff, Ekclund, Celikoff and Siebel and the more exact formulae of Bland and Ford. Practical methods of calculating the speed of rolling rectangular and irregular profiles, and formulae for speed calculation in continuous systems for rolling bars, sections, sheets and strips.

WUSATOWSKI, Z.

Polish Technical Abstracts
No. 4, 1953
Metallurgy

6 met

2985 621.771.29:620.178.0
Wusatowski Z., Wotylak A. Analysis of Metal Flow in Irregular and Asymmetric Sections.
„Analiza płynięcia metalu w kształtownikach nieregularnych i niesymetrycznych". (Prace Inst. Metalurgii No. 2), Katowice, 1952, PWT, 10.5 pp., 7 figs., 3 tabs.
In order to develop a method of controlling the suitability of the roll pass design for irregular and asymmetric sections, the authors examined Lendl's formula of coefficient of mean elongation of a total cross-section containing various elements, and the Wusatowski's formula of the coefficient of free elongation and spread. Checking calculations were made for light and heavy standard gauge rolls, for a tramway rail and for a tie plate. The calculations given indicate that the method used for analysis of the metal flow applied for regular sections, is suitable also for irregular and asymmetric sections. Errors of calculation in relation to real values are found, to be within the limits of a few percent.

WUSATOWSKI, Z.

③

2568

621.344.0713

Wusatowski Z., Wusatowski R. Possibilities of Mathematical Determination of Metal Flow in Regular Sections.

„Możliwości matematycznego określenia płynięcia metalu w profilach regularnych“ (Prace Inst. Metalurgii No. 4) Katowice, 1952, 18.5 pp., 23 figs., 6 tabs.

Polish Technical Abst.
No. 1 1954
Metallurgy

Commonly used methods of calculating the mean draft in the rolling process and the authors' own method of calculating the mean height and draft, together with the adaptation of Z. Wusatowski's formula for calculating spread and elongation; it was found possible to determine mathematically the metal flow in regular sections. Checking the conclusions in practice.

Wusa Towski Z.

1953

Process
metal metallurgy

✓ Analysis of metal flow in irregular and asymmetric sections. Z.
Wusatowski and A. Wojtylak (*Prace Inst. Metal.*, 1952, 4, 99-
108).—Roll pass designs are computed for a light and heavy
standard gauge rail, for a tram rail, and for a tie plate. The design

✓ Mathematical determination of metal flow in regular sections.
Z. Wusatowski and R. Wusatowski (*Prace Inst. Metal.*, 1952, 4,
273-291). On the basis of theoretical considerations, a new
time-saving method of mathematical determination of metal flow
in regular sections is evolved. The method makes use of several
nomograms included in the text for calculation of mean drafts,
mean heights, and volumes of the sections used in high-speed
elongation mills.
J. S. LACHOWICZ, Jr.

WUSATOWSKI, Z.

2573

669.14.018.264 : 621.771.8

✓ Murki C., Wusatowski Z., Misiolok Z. Plating Soft Carbon Steel
Sheets with Stainless Steel

Platerowanie blach z miedkich stali węglowych blachami kwaso-
 odpornymi". (Prace Inst. Metalurgii No. 5), Katowice, 1952, PWT, 9.5 pp,
 18 figs., 3 tabs.

This paper contains definitions of plated products, a review of com-
 monly used production methods and examples of applying them. The
 authors discuss their own method of plating soft carbon steel sheets
 with stainless steel. This method is a variation on rolling in packets,
 the packeting being done not by means of interposing rods but with ex-
 ternal packing by means of a strip. Investigations were conducted on
 thick sheets of rimmed carbon steel with about 0.15% C, plated with
 stainless steel sheets, of 18/8 type, titanium stabilised. It was assumed
 that if good results were obtained for these materials, then still more
 satisfactory results should be obtained from plating with other kinds of
 18/8 type stainless steel. Individual operations described are: prepara-

Polish Technical Abst.

No. 1 1954

Metallurgy

WusATowski, Z.

1952 621.844.145
 Filasiewicz R., WusATowski Z., Galanty A. Comparison of Calculation
 Methods for Roll Pressure in the Cold Rolling Process of Strips

Porównanie metod obliczania nacisku walców w procesie walcowania taśm na zimno bez nacłagu i przeciwcłagu. (Prace Inst. Min. Hutnictwa No 2) Stalinogród 1952. PWT. 243 pp., 19 figs., 12 tabs.

General considerations of theoretical formulae and practical methods of calculating the roll pressure are given on the basis of a comparison of calculated values with measured pressures. The roll pressure values were taken from data published in technical literature. These considerations led to the assumption that the best results for the designer are obtained when calculating the roll pressure by the practical method of Siegel and the method recommended by SKF. The limitation of the present research work lies in the fact that the investigations were based on only a few cases of rolling, whereas for statistical value a large number of available cases are necessary. The only positive result of the work lays in its ascertaining that, by comparison with practical and simple methods, pure mathematical calculations lead to errors of the same order and in many cases to even greater ones. It was also proved, that as regards certain rolling processes not all methods and formulae are suitable for calculating the roll pressure, and that neither of the methods cited can in all rolling processes be applied for correct calculation of roll pressure. It is pointed out that none of the known methods and formulae take into consideration the influence of rolling speed on the value of roll pressure. Since this speed actually exists, however, it should be taken into consideration in a correct method of calculation.

WYSATOWSKI, Z.

The Influence of Transformation of Interstitial Sub-
stances on the Properties of Mild Carbon Steels. Z. Wysz-
atowski. (Prace Instytutu Mechaniki, 1953, 3, 15). 11 pp. (in
Polish). Considering in turn the problems of grain and
stress in the appearance of stresses in the
of heat-treatment and the chemical composition of steel on
the phenomena of the flexible yield point and blue brittleness.
The precipitation of the tertiary carbide is the main cause of
and after rapid cooling the precipitation of nitrides
also causes ageing or cold cracking. To confirm his con-
clusions the author examined recent experiments with single
crystals of pure iron and the influence of hydrogen reduction
on the properties of mild steel. (137 references). 70.

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WUSATOWSKI, Z.

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Metallurgical Abst.
Vol. 21 A pr. 1954
Working

Comparison of Methods for Calculating the Roll Pressure in Cold Rolling Strips Without Tension or Back-Tension, K. Filasiewicz, Z. Wusatowski, and A. Galanty (*Prace Inst. Minist. Hutn.*, 1953, 5, (2), 57-81).—[In Polish]. The results obtained by the known methods of calculating roll pressures in cold rolling are compared with the experimental data available in the literature. The best results, from the point of view of a designer, are obtained by using Siebel's and S.K.F. methods. None of the methods reviewed takes into account the effect of rolling speed upon roll pressure, which an exact method should be able to predict.—S. K. L.

W. S. A. TOLOSKI, B.

Journal of the Iron and Steel Inst.
June 1954
Rolling-Mill Practice

Comparison of Methods of Calculating Torque and Specific Rolling Power During Cold Rolling without Front or Back Tension. K. F. Toloski, B. W. Winiowski, and A. Galanty. (Prace Instytutu Metaloznawstwa, 1953, 8, (8), 195-205) [In Polish]. The formulae usually applied and the method of calculating torque and specific rolling power during cold rolling without front or back tension are given. On the basis of data published in the technical literature concerning rolling in two-high, four-high and precision four-high stands, the torque and rolling power were determined using the above methods. Results by calculations and by measurements are compared.—V. O.